

REMARKS/ARGUMENTS

Claims 1, 2, 6, 7, 9, 17, and 18 are cancelled in the present amendments as it is felt that these claims are now redundant given the amendments to claim 3. Claim 3 was amended to incorporate recitations from claims 6, 16, and 17. Claim 16, was amended to reduce redundancy from amended claim 3. Claims 8, 10-14, 16, and 17 were amended to change dependency necessitated by claim cancellation. As such, these amendments do not add new matter. Therefore it is respectfully submitted that their entry is proper.

The Applicants sincerely thank the Examiner for withdrawing the previous 102 rejections as well as the 103 rejections based on Choe (US 5,654,097).

Claims 3, 4, 8, 10-16, and 19 remain pending in the present application. These claims are rejected under 35 USC § 103(a) as being unpatentable over Gessner (US 5,108,827 in light of Newkirk (WO 01/49908). As explained in the present application, a goal of the present invention is to produce fibers to allow fabrics with cloth-like aesthetics. To this end, it has been discovered that it is beneficial if small protuberances can be placed on the fiber so that the fiber has an irregular surface. In the present invention such surface irregularities are provided by having the sheath portion of a core-sheath bicomponent fiber (i.e. the portion which makes up the fiber's surface), be made from a polymer mixture having a continuous phase and a dispersed phase. It is believed that if the interfacial tension between the two phases is as recited in the claims, then the dispersed phase will form particles which will cause the surface irregularities. The present amendments to the independent claim (claim 3) take this even farther, by requiring that the average particle size be larger than the thickness of the sheath such that the particles will have to form protuberances. Dependent claims 4 and 12-16, are directed to preferred ways of facilitating the obtention of this desired result.

Another aspect of the present invention is that it a sheath-core bicomponent fiber, which allows the core to be polypropylene or any number of other fiber-forming material which may be desirable for a number of reasons including providing fiber strength or simply economics.

Initially, it is important to point out that Gessner does not relate to bicomponent fibers, and in particular does not relate to core-sheath bicomponent fibers now recited in the claims. Gessner's fibers are produced using a single stream of a material having a continuous phase and a discontinuous phase uniformly distributed throughout. A cross section of Gessner's fiber, such as shown in figure 1 of Gessner, is uniform. That is not to say that it is homogeneous, as there are clearly dispersed particles, but these particles are uniformly dispersed as the fiber was made using a single extruder to the spinneret.

A bicomponent fiber on the other hand, will not be uniform. For example in a sheath/core form, it is readily understood by those in the art that the core will look different from the sheath. In the present claims the applicants require a mixture of material for the portion of the bicomponent fiber which makes up at least a portion of the fiber's surface. This mixture might look similar to the cross-section shown in figure 1 of Gessner, but the present claims require at least a third feature, such as a core in a sheath/core form of a bicomponent fiber.

As explained in the present specification, the recitation of a bicomponent fiber is significant as it allows combinations of properties such as hand feel and spinnability that have not been previously observed.

Furthermore, neither Gessner nor Newkirk teach or suggest the recitation that the average size of the particles are bigger than the thickness of the sheath. Gessner obviously does not discuss this as it does not disclose sheath-core structures at all. In Newkirk, at page 13, lines 9-16, it is indicated that the dispersed polymer in the immiscible blend is added for wind up speed suppression. As such, there would be no advantage for having particles larger than the sheath, and therefore it is not surprising that there is no such teaching in Newkirk.

Accordingly, based upon the above amendments and remarks, Applicants respectfully submit that present claims of record are patentable over the art of record, and therefore courteously request that the rejections be withdrawn and the case passed to allowance.

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Respectfully submitted,

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/James T. Hoppe/
James T. Hoppe
Registration No. 35,899
Phone: 979-238-9039

P. O. Box 1967
Midland, MI 48641-1967

JTH/mr